

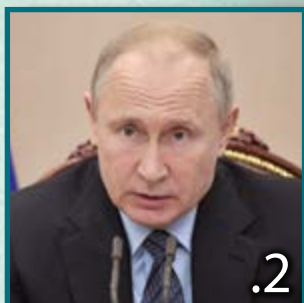
RUSSIAN AVIATION & MILITARY GUIDE

Special analytical export project of the United Industrial Publishing

Special edition, July 2023

MOST IMPORTANT

*Russia's relations
with African countries*



FSMTC OF RUSSIA

*Steady development of
Russian defence export*



ROSOBORONEXPORT

*One of the leaders on
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Russia - Africa: special friendship and partnership

In the end of July this year in St. Petersburg there will be the Second Russia-Africa Summit - the highest-profile and largest-scale event in Russian-African relations, aimed at bringing about a fundamentally new level of mutually beneficial partnership to meet the challenges of the 21st century. The goal of the event is to promote efforts to strengthen comprehensive and equal cooperation between Russia and African nations across all areas of society including politics, security, economic relations, science and technology, and the cultural and humanitarian spheres.

The First Russia-Africa Summit took place on October 2019 in Sochi under the motto of 'For Peace, Security and Development'. This was the first time such a large-scale event had been held in the history of modern Russia, and was unprecedented in Russian-African relations. The participants identified priority areas of economic cooperation where concrete results could be achieved in the coming years. A closing declaration was adopted at the end of the Summit, outlining the approval of goals and objectives for the future development of Russian-African cooperation across politics, security, economics, science and technology, culture and the humanitarian sphere.

About a month before the summit at the June meeting with heads of delegations of African states in the Constantin Palace (St. Petersburg) President of Russia Vladimir Putin said: 'Comprehensive development of ties with African countries is a priority of Russian foreign policy. We have consistently stood for further consolidating the traditionally friendly relations with African countries and the primary regional association - the African Union - based on principles of equality, mutual respect and non-interference in internal affairs.

This year our cooperation with our African partners has been actively developing in the broadest possible range of directions. Comprehensive preparations are underway for a milestone event - the second Russia-Africa summit to be held soon here, in St Petersburg. I am confident that promising new directions of cooperation in political relations, trade and economic ties, science and technology, humanitarian affairs and other fields will be outlined during this event.

I would like to underscore that Russia has the utmost respect for the principled position of African states in favour of maintaining global and regional stability and security, peaceful settlement of conflicts, and establishing a more just model of international relations.'

Successful work at the summit!

Valeriy Stolnikov





RUSSIA – AFRICA IN A MULTIPOLAR WORLD

On March this year Vladimir Putin spoke at the International Parliamentary Conference Russia – Africa in a Multipolar World, held in Moscow under the auspices of the State Duma of the Russian Federal Assembly.

President of Russia Vladimir Putin said: 'I would like to sincerely welcome all the representatives of legislative bodies and leaders of political parties and public movements from African states in Moscow and at the international parliamentary conference.

Your conference is undoubtedly important in the context of the continued development of Russia's multifaceted cooperation with the countries of the African continent. We also consider this event a key part of the preparations for the upcoming second Russia-Africa summit scheduled to be held in St Petersburg in July.

The first Russian-African summit held in October 2019 in Sochi was very productive and noticeably invigorated our ties with African states,

gave a boost to business interaction and cultural and humanitarian exchanges. The partnership between Russia and African countries has gained additional momentum and is reaching a whole new level.

This conference brings together representatives of most countries on the continent. Given that it is legislators who are supposed to express the will of their voters in their countries and work in the interests of their people, your arrival shows that the peoples of Africa are interested in stepping up efforts to develop multifaceted and mutually beneficial relations with Russia.

I want to emphasise that our country has always and will always consider cooperation with African states a priority. It would not be an exaggeration to say that it is one of

the unchanging priorities of Russia's foreign policy.

Ever since the African peoples' heroic struggle for independence, it has been common knowledge that the Soviet Union provided significant support to the peoples of Africa in their fight against colonialism, racism and apartheid, how it helped many African countries to gain and protect their sovereignty, and consistently supported them in building their statehood, strengthening defence capabilities, laying the foundations of their national economies and workforce training. The symbol of this cooperation was the construction by Soviet experts of the Aswan Dam, the largest in Africa. And today, the Russian Federation continues its policy of providing the continent with support and assistance.

The process of establishing the African Continental Free Trade Area, which began in 2021, opens up additional opportunities. In the future, this zone will become a continental market with a total GDP of more than three trillion dollars. We are in favour of actively developing ties with this new association both within the Eurasian Economic Union and bilaterally.

Large Russian investment projects are being implemented in Africa, involving such domestic companies as Rosneft, Gazpromneft, RusHydro, ALROSA, Lukoil and many others. We will continue to help African countries with electricity production, which so far covers only a quarter of the continent's needs.

Today we are offering new environmentally friendly technologies, primarily in nuclear energy. Rosatom is already building a nuclear power plant in Egypt and plans to expand its involvement in the development of the national energy systems of the African continent. I would like to note that significant, in some countries 100-percent funding is provided by Russia. These are serious projects worth 15, 20 or 25 billion dollars.

Russian-African cooperation in the field of high technologies is also being strengthened. For example, Russia is helping to create the ANGOSAT satellite communication and television broadcasting system in Angola. Yandex is actively introducing information services to organise the transportation of passengers by taxi and other modes of transport in African countries. At the same time, Russia is always ready to share its technologies with African countries; it offers precisely joint, diverse technological development.

I would like to stress that Russia is reliably fulfilling all its obligations pertaining to the supply of food, fertilisers, fuel and other products that are critically important to the countries of Africa, helping to ensure their food and energy security. You probably know that we are ready to supply some of the resources we have frozen in European countries to countries in need free of charge, including fertilisers; and the first batches have already been sent. But unfortunately, there are obstacles here as well.

Russia, guided by the needs of African countries, first and foremost, has recently agreed to extend the agreement concluded in Istanbul on the export of Ukrainian food through the Black Sea and the unblocking of Russian agricultural exports and fertiliser supplies for another 60 days.

At the same time, we insist on the package nature of this deal – above all, in the interests of African and other developing countries, considering that they need large amounts of food – we insist on full compliance with Russia's key requirements, first of all, as I said, making sure that grain and fertilisers go to the African countries in need, and not to satiated European markets and countries. Meanwhile, about 45 percent of the total volume of grain exported from Ukraine went to European countries, and only three percent went to Africa. Now, perhaps I will say two more words about this.

Let me stress that only if our position is taken into account will the fair and comprehensive implementation of the Black Sea grain deal be ensured, and depending on this, we will decide on our further participation in it. For reference, I can give you the following information. From August 1, 2022, to March 20, 2023, 827 ships left Ukraine, of which only three million tonnes of grain were

sent to Africa and 1.3 million to the poorest countries in Africa. As I said, almost 45 percent went to well-fed European countries, despite the fact that this whole deal was presented under the pretext of ensuring the interests of African countries.

By the way, let me note that at the same time, despite all the restrictions and limitations on the export of Russian grain, almost 12 million tonnes were sent from Russia to Africa.

I would also like to add that if we decide not to extend this deal after 60 days, Russia will be ready to





supply the same amount that was delivered under the deal, from Russia to the African countries in great need, at no expense. (Applause.)

Cooperation between Russia and African countries in education is at a traditionally high level. Today about 27,000 African students are studying in Russia, including 5,000 whose education is covered by the federal budget. At the same time, the annual quota for state-funded scholarships at Russian universities will be more than doubled. The project of the Russian-African Network University has entered its practical stage.

We intend to step up cooperation on such important topics for

Africa as medicine and healthcare, as well as ensuring biological and epidemiological safety. In order to do this, Russia is ready to transfer fully equipped mobile labs and modern medicines to Africans, and to train specialists.

During the coronavirus pandemic, Russia was among the first countries to provide African states with large volumes of vaccines, test kits, personal protective equipment, and other medical and humanitarian cargoes.

And, of course, Russia always lends a helping hand to African countries in relieving the devastating consequences of natural disasters: floods, fires, hurricanes and droughts. Cooperation in the fight against ter-

rorism and extremism has seen significant progress in recent years.

Military and defence industry cooperation continues, including the supply of Russian weapons and military equipment to African partners, and the training of relevant personnel. Currently, military personnel from over 20 African countries are studying at the institutes of the Russian Ministry of Defence.

Friends,
We are hard at work preparing for the second Russian-African summit and, of course, we will be glad to see leaders of all African countries, as well as heads of regional organisations, at this forum.

A busy and substantive agenda is being prepared for the summit and the economic and humanitarian forums held together with it. In total, there are plans to hold more than a hundred most diverse events ahead of and during the summit.

In conclusion, I would like to recall the words of an outstanding African statesman and fighter for the independence and rights of the peoples of Africa, Nelson Mandela, which still sound so relevant today: nothing should divert us from the road to freedom, and we should not allow anyone to stand in our way. I believe that by joining our efforts and helping each other, we can do so much for the prosperity and well-being of the peoples of Africa and Russia.

Thank you very much for being here in Moscow with us today. Thank you. Good luck to you. All the best' /RA&MG/



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FOR PEACE, SECURITY AND DEVELOPMENT

First Russia-Africa Summit strengthened bilateral economic and military-technical ties

Over six thousand participants from Russia and 104 foreign countries, 1,100 representatives of foreign business and 1,400 representatives of Russian business and over 1,900 members of foreign official delegations took part in the Russia-Africa Summit and Economic Forum held in Sochi in October 2019 under the slogan 'For Peace, Security and Development'. During the events, 92 agreements, contracts and memoranda of understanding were signed for a total value of 1.004 trillion roubles. The results of the Summit and the Forum show that mutual interest between Russia and African countries remains at a high level.

Strategic and long-term nature

Vladimir Putin: 'Russia and Africa are linked by the ties of traditionally amicable relations. Our country has consistently supported the national liberation movement of the peoples of Africa, made a significant contribution to the establishment of young states and the development of their economies, and the creation of combat-ready armed forces. Our

cooperation, rooted in the common struggle against colonialism, is of a strategic and long-term nature.'

Cooperation between our country and the states of the African continent began in the 1960s, during Soviet times. Moscow built schools and hospitals and trained doctors and teachers in its universities. Hundreds of Soviet specialists worked in Africa.

The relationship was so successful that the idea of holding a summit like

the one in 2019 was born in the USSR. It was proposed in 1989 by the Soviet Ministry of Foreign Affairs. However, it took thirty years to put the idea into practice.

In the 1990s, following the collapse of the USSR, Russia's presence in Africa weakened. It got to the point where dozens of embassies, consulates, many trade missions and cultural centres of African countries were closed in our country. It was only in the mid-2000s that ties began to be restored.

In March 2006 Vladimir Putin visited Algeria, where major contracts were signed for the supply of high-tech products from Russia; in April 2008 the president met with Muammar Gaddafi in Tripoli, which also resulted in signing contracts with Libya for the supply of machinery and an agreement to build a railway. In June 2009, Dmitry Medvedev travelled across Africa, visiting Egypt, Nigeria, Namibia and Angola. In December 2011, Ethiopia hosted the first Russian-African Business Forum. In March 2018, Foreign Minister Sergei Lavrov toured across Africa. Finally, in 2019, conditions were ripe for a major event – the Russia-Africa Summit and Economic Forum.

Constructive interaction

Vladimir Putin: 'African states are steadily gaining political and economic weight, are establishing themselves as one of the important pillars of the multipolar world system, and are taking an increasingly active part in shaping the decisions of the international community on the key issues on the regional and global agenda. Our positions on many of these issues are close or coincide, which creates favourable conditions for constructive cooperation at the UN and other international institutions.'

Today, developing cooperation between Russia and African countries is a strategic task. It is enough to say that of the world's nine fastest-growing economies, five are in Africa. Experts estimate that Africa's GDP will reach \$29 trillion by 2050.

In recent years, Russian-African relations have been developing under persistent pressure from Western countries, but this cannot undermine the traditional friendly relations that

have developed between our country and the African states. Russia's key trading partners are Egypt, Algeria, Morocco, Tunisia and South Africa. Meanwhile, Egypt, Algeria, Morocco, Nigeria and Tunisia accounted for the largest share of Russia's exports on the eve of the 2018 summit, while South Africa, Morocco, Egypt, Cote d'Ivoire and Tunisia accounted for the largest share of Russia's imports.

Project and investment cooperation is also developing. Russian business representatives try to contribute to the sustainable development of national economies in African countries and participate in solving social problems of the population. As of 2019, more than 30 major Russian companies were developing their business in Africa in the fields of energy, mining, the fuel and energy complex, infrastructure construction, transport engineering and banking.

Russian businesses are present or planning its activities in the follow-

ing countries: Algeria, Angola, Burkina Faso, Cameroon, Chad, DRC, Egypt, Equatorial Guinea, Ethiopia, Gabon, Ghana, Guinea, Liberia, Mali, Mauritania, Mozambique, Namibia, Nigeria, Republic of Congo, Rwanda, Sierra Leone, South Africa, Sudan, South Sudan, Tanzania, Zambia, Zimbabwe. The total amount of Russian investments in the continent's states as of 2019 was at least \$20 billion.

The summit unlike any other

Vladimir Putin: 'We are all interested in giving the Russian-African interaction a real systemic and complex character. <...> The idea of a Russia-Africa partnership forum, in the framework of which <...> meetings at the level of heads of states could be held at regular intervals, for instance, once in three years, was already discussed.'

The organisers of the Russia-Africa Summit and Economic Forum acknowl-



edged that such large-scale events were held by Roscongress for the first time in Russia, and that they have no analogues in the history of Russian-African relations at all. Representatives of African authorities and businesses expressed an interest in further developing interaction and intensifying Russian-African cooperation.

Suffice it to say that the Summit and Forum was attended by official delegates from all 54 countries of the continent and 45 states were represented by heads of state and government. The forum was attended by the heads of executive institutions of eight African regional organisations,

the Intergovernmental Organisation for the Development of the Common Market for Eastern and Southern Africa, and the continent's six sub-regional integration groupings.

The first Russia-Africa Summit was co-chaired by Russian President Vladimir Putin and Egyptian President Abdel Fattah Al-Sisi.

The forum was preceded by extensive preparatory work. The organisers and future participants identified priority areas for economic cooperation, such as renewable sources of energy, infrastructure development (especially construction of railways and housing), high-tech mining and

processing of minerals, agriculture, digital technologies, geological exploration, medicine, science and education.

At the end of the summit, the participants adopted a declaration containing the objectives and tasks for the further development of Russian-African cooperation in politics, security, economics, science and technology, as well as in the cultural and humanitarian spheres. The participants supported the Russian president's proposal and stipulated in the document to hold such meetings every three years.

The Summit will be the supreme institution of the Russia-Africa partnership and in between these events, Russia will host annual political consultations between the foreign ministers of the Russian Federation and African states. In addition, a permanent Russia-Africa session will be held within the framework of the St. Petersburg International Economic Forum. The declaration also notes the mutual determination of Russia and Africa to take cooperation to a new level in terms of the exchange of technological products, generation and global trade of knowledge and competencies.

Expanding the potential of cooperation
Vladimir Putin: 'The mutual trade turnover between Russia and Africa has more than doubled in five years,

exceeding <...> 20 billion dollars. Is it a lot or a little? <...> I think it is too little. You should keep in mind, ladies and gentlemen that: of the 20 billion, 7.7 billion is our trade with Egypt, that is 40%. And in Africa there are a lot of our potential partners. With good prospects for development, with huge growth potential.'

The business programme of the Summit was represented by the Russia-Africa Economic Forum, which opened with a plenary session on the topic: 'Russia-Africa: Expanding the Potential of Cooperation'. Summit co-chairmen Vladimir Putin and Abdel Al-Sisi addressed the Forum.

'We appreciate the attention the Russian Federation is paying to strengthening cooperation with Africa, and we see the Economic Forum as an important platform to showcase opportunities to develop investment and trade between our peoples,' the Egyptian leader stressed in his speech.

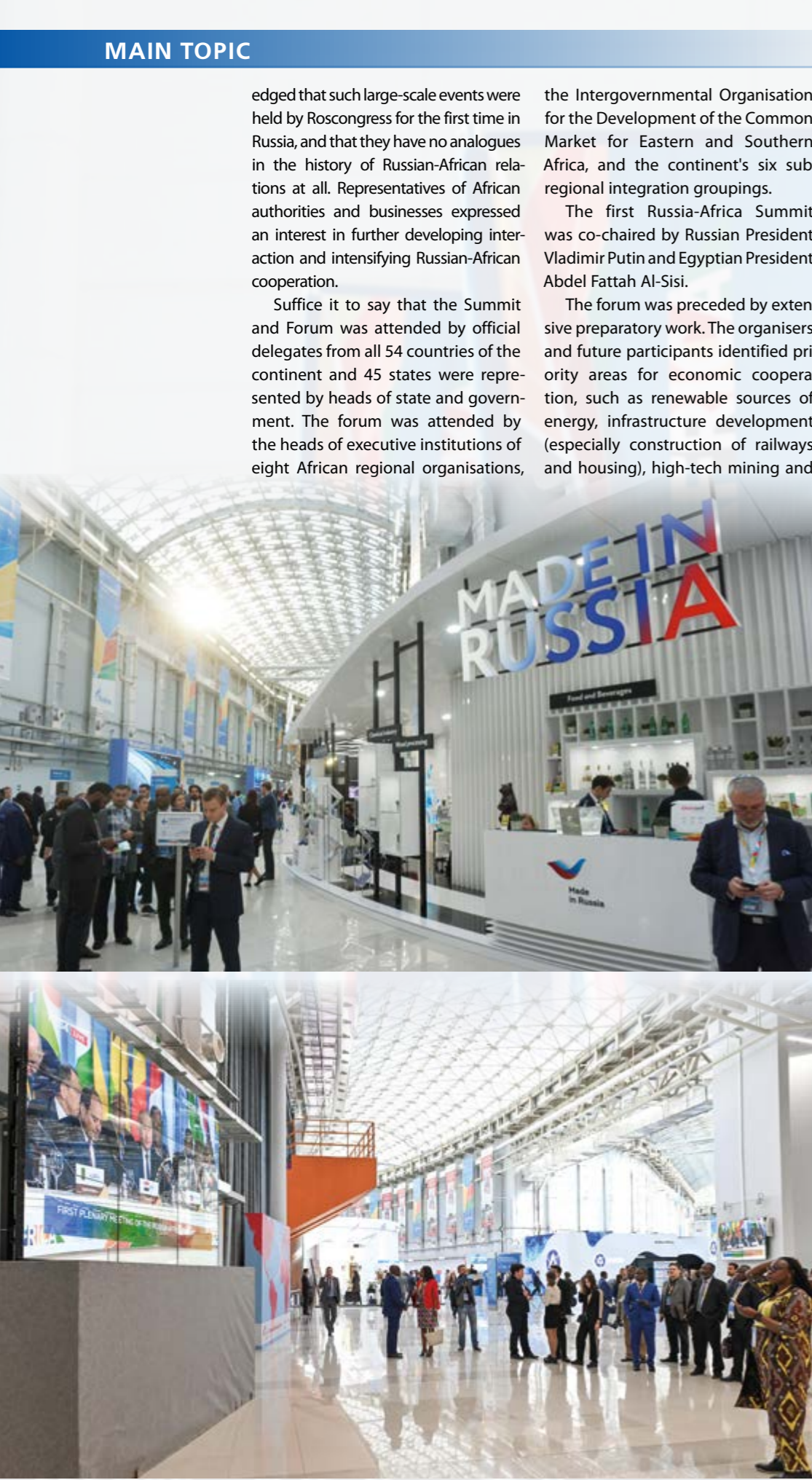
The plenary session programme was attended by Russian Minister of Economic Development Maxim Oreshkin, Russian Minister of Natural Resources and Environment Dmitry Kobylkin, Russian Export Centre CEO Andrey Slepnev, VTB Bank President and Chairman of Board Andrey Kostin, African Union Commissioner for Infrastructure and Energy Amani Abu-Zeid, Southern African Development Community Executive Secretary Stergomena Lawrence Tax, African Export-Import Bank

Chairman of Board Benedict Okey Orama, Naspers Ltd Chief Operating Officer Phuthi Mahanyele-Dabengwa.

Maxim Oreshkin, in particular, presented the Map of Russian Competencies for Africa, an information and analytical software that allows to learn about Russian achievements and opportunities in various areas, as well as competitive domestic products. The software includes 39 products grouped into seven competencies: medicine, subsoil use, digital government, education, transport infrastructure, energy and agriculture.

The forum was divided into three thematic tracks: 'Developing economic ties', 'Creating joint projects' and 'Cooperation in the humanitarian and social sphere'. During the event, 31 sessions were devoted to the development of trade and economic relations, joint projects in the oil and gas industry, agro-industrial sector, creation of transport infrastructure, construction and nuclear energy. A total of 268 speakers took part in the discussions.

569 business talks took place during the summit, many of which resulted in the signing of agreements.





The most significant of them were the Memorandum of Understanding on Relations and Cooperation concluded between the Government of the Russian Federation and the African Union and the Memorandum of Understanding between the Eurasian Economic Commission and the African Union Commission.

In addition, 13 cooperation agreements were signed at Economic Forum events: with the Eswatini Investment Promotion Agency; the Republic of Congo Investment Promotion Agency; the Chad Chamber of Commerce and Industry; the Egyptian Exporters Association Expolink; the Niger Investment Promotion and Strategic Projects Agency; the Burkina Faso Chamber of Commerce and Industry; the Russian

Academy of Sciences Institute of African Studies; the Tanzania Chamber of Commerce, Industry and Agriculture; the Abuja Chamber of Commerce and Industry; the National Chamber of Commerce and Industry of Kenya; Chamber of Commerce and Industry of Mali; Federation of enterprises of the Democratic Republic of Congo; Confederation of business associations of Mozambique. Thus, the number of countries with which the Roscongress Foundation has established cooperation on the basis of agreements has increased from 94 to 107.

Russian companies have also signed a number of major contracts. The most important ones have been signed in the fields of exports and FEA, investment and banking, indus-

try and construction, transport and logistics, and high technology.

In the name of peace and security

Vladimir Putin: 'As a Permanent Member of the United Nations Security Council, Russia intends to continue to actively participate in the development of the international community's strategic policy and practical measures in the strengthening of peace and stability in Africa and the promotion of regional security. <...> We are concerned that the situation in many regions of Africa remains unstable, unfortunately for all of us: inter-ethnic and ethnic conflicts have not been resolved and acute political and socio-economic crises persist. The development of the African continent is hampered by terrorism, the spread of extremist ideology, transnational crime and piracy.'

A separate topic at the Summit and the Economic Forum was that of ensuring security in African countries. It is no coincidence that Vladimir Putin paid particular attention to this issue in his address to the plenary session. He noted that Russia played a significant role in the liberation of the continent and assisted in defending its independence and sovereignty, establishing statehood, building the foundations of the national economy and creating combat-ready armed forces.

Meanwhile, according to the president, many countries on the continent are still facing the consequences of the so-called Arab Spring, which has destabilised the situation throughout North Africa. Numerous terrorist organisations, including ISIS,



al-Qaeda, Boko Haram and al-Shabab, are operating in this region, as well as in the Sahara-Sahel zone, in the Lake Chad region and in the Horn of Africa.

The Russian leader noted with satisfaction that the military-technical partnership between Russia and African countries continues to develop vigorously. Russia has signed agreements on military-technical cooperation with more than thirty countries, which are supplied with a wide range of weapons and equipment.

As Rosoboronexport CEO Alexander Mikheyev said at the plenary session, Russia intended to supply arms to nine African countries for \$4 billion in 2019. This included air force and air defense equipment, armored vehicles, small arms and anti-tank missile systems.

Rosoboronexport held talks with representatives of 15 countries during the summit. In 2021, Alexander Mikheev stressed that the strong impetus given to military-technical cooperation with African countries during the Russia-Africa Forum made it possible to conclude contracts for the purchase of weapons and equipment worth \$1.7 billion by mid-year.

At the same time, according to Dmitry Shugaev, director of the Federal Service for Military-Technical Cooperation, the total order package for 2019 amounted to \$14bn.

Among the samples of Russian products the most demanded are BTR-80, 80A and 82A, AK-12 and AK-15 assault rifles, and absolute novelties in Africa – AK-19 and AK-308. In addition, African partners are provided with information on Russian anti-tank systems – including the Kornet-E and Kornet-EM anti-tank systems, as well as 120mm and 82mm mortars.

Rosoboronexport actively cooperates with African countries on civilian projects. In particular, considering the wide range of tasks performed and the current needs of Africans, Russian helicopters and vehicles for various purposes, medical modules and equipment, rapidly erected hospitals, tent camps, personal protective equipment and outfit, means of law enforcement, mobile repair shops and other civilian products are in the highest demand.

The implementation of technological cooperation projects in the civil sector (the creation of assembly facilities, maintenance and repair centres, etc.) also broadly responds to the needs of African leaders to develop their own competencies and create jobs in the face of population growth and, consequently, unemployment.

All the best for Africa

Vladimir Putin: 'We consider trade, economic and investment cooperation to be the most important component of Russia's relations with the countries of the African continent. The volume of trade has doubled in the last five years. Diversification of Russian exports and a change in its structure in favour of non-oil supplies are gradually taking place. At the same time steps are being taken to establish cooperation in the high-tech sector.'

One of the highlights of the Summit was the exhibition which brought together various sectors of the Russian economy. The centerpiece of the exhibition was the extensive display of military equipment and armaments by Rosoboronexport. It featured the models of Yak-130 combat trainer aircraft, the Pantsir-S1 surface-to-air missile system, the Tor-M2KM surface-to-air missile system and the Mi-171Sh military transport helicopter.

Furthermore, the company demonstrated equipment for army and special anti-terrorist units. First of all, these were Kalashnikov 'two-hundredth' series assault rifles, GP-34 grenade launchers, Vityaz-SN submachine guns and sniper rifles, as well as ORSIS civilian and service weapons. The exhibition also showcased Russian hardware such as the Tiger, VPK-Ural and Typhoon armoured vehicles, the Mi-35P helicopter, the MiG-35 multifunctional frontline fighter and the Ansat light helicopter.

Russian electronic warfare equipment is also in growing demand in Africa. In Sochi, for example, African partners were shown a range of systems capable of intercepting and suppressing small and ultra-small drones at different ranges.

The companies from other sectors of the economy – agriculture, heavy and light engineering, and many others also actively participated in the exhibition. In particular, a large exposition was prepared by the Russian Export Centre, which presented Rosatom's renewable energy sources and Transmashholding's RA-3 double-car rail bus. The latest models of automotive equipment were displayed by GAZ Group. The Roscongress Foundation, together with PJSC Gazprom, organized an innovation cluster, the Territory of Innovations, at the exhibition. Fourteen high-tech Russian companies presented their projects at the stand. The exhibition was also attended by 30 exhibitors – industry leaders such as JSC Russian Railways, Phosagro, PJSC United Aircraft Corporation, STC PROTEI and others.

/RA&MG/

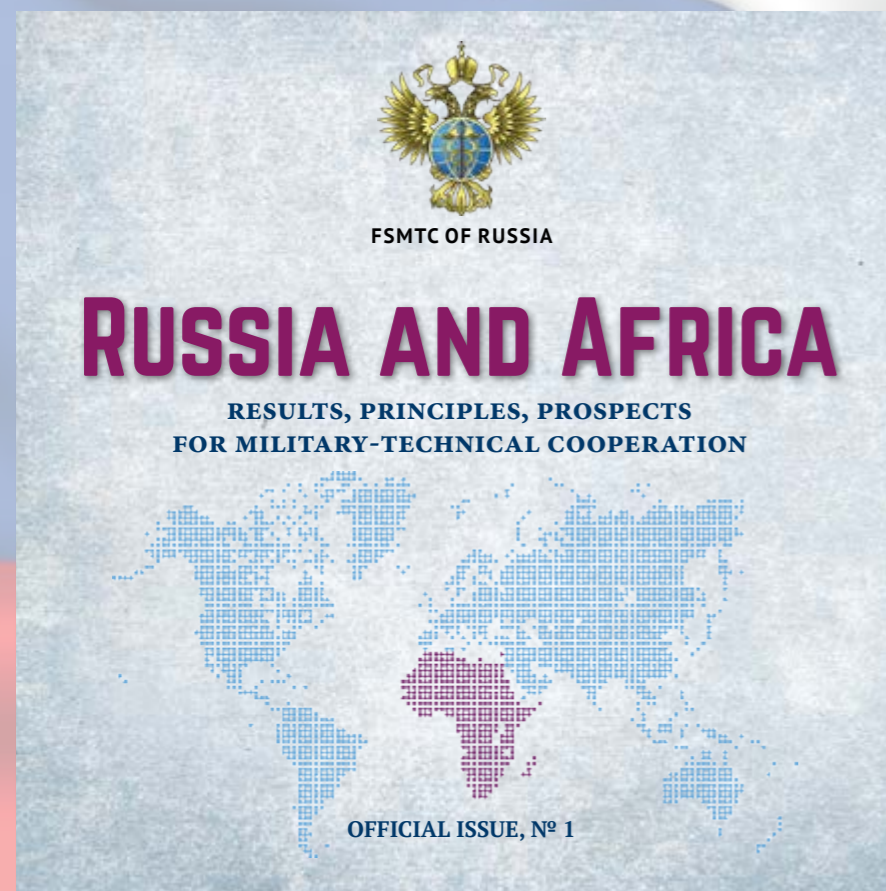


RUSSIA AND AFRICA

RESULTS, PRINCIPLES, PROSPECTS FOR MILITARY-TECHNICAL COOPERATION

A special official almanac of the FSMTC of Russia

A special historical and presentation almanac 'Russia and Africa: results, principles, prospects for military-technical cooperation' will be published in 2024 under the auspices of the FSMTC of Russia (publisher – United Industrial Publishing).



The almanac 'Russia and Africa: results, principles, prospects for military-technical cooperation' will present the history of military-technical cooperation between Russia and Africa, the most significant projects of defense cooperation, general principles of Russian military-technical cooperation, trends in military-technical cooperation with the countries of the region, the historical role of the USSR and Russia in strengthening security in the region, an overview of the arms and military equipment offered for delivery to Africa, proposals and modernization programs, future directions for the development in the interests of African countries and more.

The almanac will be sent to the embassies of African countries in Russia, the heads of security agencies and defense structures of African states involved in the procurement of weapons and military equipment, as well as personally to the leadership of the armed forces of the continent. In addition, the collection will be used at official international events in the field of military cooperation and security strengthening with the participation of Russia and African countries.

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FSMTC OF RUSSIA

***Dmitry Shugaev:** 'The African continent is of great importance for the Russian Federation. In modern geopolitical realities, we consider Africa as an important ally in the international arena. We are ready for deliveries of the most modern military equipment'*

In accordance with the law of the Russian Federation, activities in the field of Military-Technical Cooperation (MTC) with foreign countries shall be controlled and supervised by the Federal Service for Military-Technical Cooperation (FSMTC of Russia) that, among other things, shall ensure implementation of basic principles of the Russian government policy in the field of MTC. Dmitry Evgenyevich Shugaev, FSMTC of Russia Director discusses main directions and tendencies in development of military-technical cooperation between the Russian Federation and foreign countries (including African states), the peculiarities of Russian military purpose product exporters' activities at the present stage in his interview to our magazine.

– **Mister Shugaev, how would you assess the strategic importance of the development of the military-technical cooperation with the African states for Russia?**

– The African continent is of great importance for the Russian Federation. In modern geopolitical realities, we consider Africa as an important ally in the international arena. We are ready for deliveries of the most modern military equipment.

The cooperation with the states of the region has a long-standing and traditionally friendly character, which has formed the basis for the further development and strengthening of ties between our states.

This is confirmed by the upcoming 'Russia-Africa Summit'.

– **What can be said about the growing dynamics of the development of Russia's military-technical cooperation with the African states?**

– The dynamics of the military-technical cooperation with the African states tends to grow. The African market is sufficiently capacious and promising. The states of the region are paying more and more attention to the issues of ensuring security and strengthening the defense capability, while rejecting the encroachments of the West.

In this regard, they are interested in strengthening their defense capabilities and acquiring the most modern types of the military equipment.

The Russian Federation, in turn, confirms its readiness to provide the necessary assistance to the African partners in this matter.

– **What historical continuity of the military-technical partnership between the USSR and the African states should be discussed first of all? In what areas is this partnership mainly developing?**

– In the course of the national liberation movement, the USSR provided invaluable assistance to the African states in the struggle for independence. The supplied weapons and military equipment are still in service with most states of the continent.

The Russian Federation, being the legal successor of the Soviet Union, maintains and develops historically established friendly relations with the states of the African region.

In addition to the supply of the Russian modern weapons and mili-

tary equipment, we put a serious emphasis on assisting in the creation of centers for maintenance and repair of previously delivered equipment, primarily the helicopters and the armored vehicles.

The authorized Russian subjects of the military-technical cooperation have formed the comprehensive programs of work in this direction. At the same time, we offer a wide range of services, such as the supply of the necessary equipment, authentic spare parts and accessories, technical documentation, training of flight and technical personnel, as well as design and technical support for ongoing work.

– **To what extent is Russia ready to meet the current and future needs of the African states to strengthen their defense capability and enhance national security?**

– On the whole, the cooperation with the African states is of stable and dynamic nature. The African states traditionally acquire a wide range

The principle of state policy in the field of military-technical cooperation is the priority of Russia's interests while strictly observing international norms and obligations.



of weapons and military equipment from us.

Many countries in the African region face terrorist threats. In this regard, we are ready to assist our African partners in equipping their law enforcement agencies with the latest Russian weapons and military equipment.

– This year Russia celebrates 70 years of military-technical cooperation with foreign countries. In your opinion, what historical features in the development of Russian cooperation in this area have ensured and ensure the steady success of our country?

– The principle of state policy in the field of military-technical cooperation – the priority of Russia's interests while strictly observing international norms and obligations – has remained unchanged since the very first day when the system of state management of military-technical cooperation between the

Russian Federation and foreign countries was established. It is considered to be 8 May 1953, when the Main Engineering Directorate was created under the Ministry of Internal and Foreign Trade, which supplied military equipment to foreign countries.

In the 1960s, the USSR firmly established itself as one of the world's leading exporters of military equipment. Deliveries became complex and multifaceted, their mechanism was formed, the criteria of priority and reliability of partners were determined, as were the main competitors on the world arms market: the USA, England and France.

In the 1970s, the Soviet Union significantly expanded the scope of its military-technical cooperation with allied countries within the socialist bloc. The states of Eastern Europe were given licenses to produce some samples of military equipment, which they were allowed to sell to 'third' countries.

In the early 1990s, Russian military industry and exports of military products were faced with a number of problems. In these circumstances, there was an urgent need to change the existing system of military-technical cooperation.

It was decided to fundamentally reform the system of military-technical cooperation by building a 'presidential vertical of power'. A single state intermediary for the export of the entire range of finished products, Rosoboronexport, was created, as well as the Russian Federation Committee for Military-Technical Cooperation with Foreign States (now the Federal Service For Military-Technical Cooperation of Russia), which exercises state control and oversight in this area.

The reform of Russia's military-technical cooperation system has made it possible to reverse negative trends and move towards increasing both the volume and the quality of Russian defence exports.

The structure of Russia's modern system of military-technical cooperation established in the early 2000s has shown its resilience in the most critical situations, as it is able to respond in a timely manner to changes in the world and to function effectively in adverse conditions.

Today, our country cooperates with more than 100 countries, and its export order book has remained at \$50-55 billion over the past few years.

– In your estimation, how significant is the contribution of the USSR and Russia to global stability and balance in the world? To what extent do the defence technologies of the USSR and Russia make the countries of the world – our partners – feel more confident, reliable and secure?

– The main feature of the Soviet Union's economy was its complete focus on military production. Foreign policy was based on spreading Soviet influence in all regions of the world. At the same time, supplies of military products, assistance to friendly countries in developing their military industry, and the transfer of licenses for the production of Russian military equipment had an absolute advantage in building

relations with allied states. Export deliveries of military equipment had absolute state support.

The collapse of the Soviet Union fundamentally changed the situation in the international arms market. The exit of a major exporter cleared the way for the world's major suppliers of military products to increase exports and allowed new arms manufacturers to enter the market. As a consequence, competition intensified, the range of products offered increased, and 'dirty' methods of competition began to be used more frequently.

Russia found itself in a situation where it was necessary to practically rebuild the entire state system from scratch, which required considerable financial cost. The old methods of state-building did not fit, everything was starting from scratch.

Today, our main principles of interaction with foreign partners are mutual respect, readiness to consider their interests and the absence of politically motivated claims. It is a reasonable ratio between the price and quality of the products supplied; and finally, it is the tactical and technical characteristics of our military equipment. It is also important that we are reliable and responsible suppliers.

Russian manufacturers are ready to offer potential buyers modern military equipment that meet all requirements and are traditionally renowned by their foreign partners for their reliability in operation, unpretentiousness to weather and climatic conditions, and high maintainability. This has repeatedly been proven by its successful use in real-world combat conditions. Moreover,

the design and technological deficiencies identified during combat use are eliminated during the production of new models. Thus the main feature of military equipment – its combat effectiveness – is significantly improved. As a result, more and more countries are showing interest in purchasing our products. This means that the list of our partners in the field of military-technical cooperation has good prospects for growth.

– What do you think are the main principles of Russia's military-technical cooperation with foreign countries today?

– As you know, military-technical cooperation is one of the components of the foreign policy pursued by our state. The main principles of

our foreign policy remain the same for military-technical cooperation. They are: mutual respect and cooperation on the basis of equal rights, non-interference in the internal affairs of other states, compliance with international laws and commitments. Naturally, at the same time we are against the use of threats, blackmail, coercion, use of force and any kind of restrictions in international relations.

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All of the above allows us to build cooperation not only with states that share the views and foreign policy of the Russian Federation, but also with countries that are under serious Western influence.

– **In your opinion, why does Russia confidently maintain its leading positions in the world market of weapons, security equipment and systems?**

– Indeed, over the past several years the Russian Federation has been confidently holding the leading positions in the world arms market. This is due to the fact, that all parts of a well-functioning system professionally work together within the military-technical cooperation between the Russian Federation and foreign countries.

Specifically, when our foreign partners make contracts with Russian suppliers for the purchase of military



products, they understand that they will get high end equipment that meets their needs and has the characteristics of the world's best models, tested in real-world combat conditions. Besides, Russian suppliers are always ready to discuss any issues within the framework of contract performance.

Of course, foreign customers of Russian military products planning to develop military-technical cooperation with Russian Federation, along with other factors, also take into account our historical background, and see us as a reliable supplier capable of providing its partners with top level products.

– **What makes Russia's commitment consistent and reliable? What are Russia's unconditional advantages as a military-technical partner?**

– Certainly, Russia is willing to honor the wishes of foreign customers to the maximum extent possible, as long as this does not pose a threat to national security.

We make no political nor legal demands, except as set forth in recognized international instruments.

Furthermore, our commitments to protect the interests of our partners remain strong, especially in the context of the US illegal anti-Russian sanctions policy and Washington's cross-border approach to the Countering America's Adversaries through Sanctions Act.

For the sake of the common interest, we use alternative payment solutions for the products delivered and increasingly use national currencies

for payments. It is imperative that we take into account the requirements of the national legislation of foreign customers.

Traditionally, we offer high-end weapons products on the international market with characteristics comparable to, and in some cases surpassing, those of their foreign peers, including in terms of price-performance ratio.

We are committed to preventing delays in the delivery of purchased equipment. We are actively developing an after-sales service system for previously supplied equipment, arranging licensed production and cooperating in high-tech areas.

Overall, throughout a long period of time, the Soviet and, after that, the Russian system of military-technical cooperation has systematically strengthened its global credibility both as a reliable partner and supplier of military products. And now, in the face of unprecedented sanctions pressure, we continue to honestly and efficiently carry out the work entrusted to us – to develop military and technical co-operation with foreign countries.

– **What allows Russia to overcome unparalleled pressure by Western countries, as well as sophisticated technologies of unfair competition?**

– Now we live in a world that faces a transition from unipolarity to multipolarity. Washington with the desire to maintain its global hegemony is increasingly using illegal methods of coercion in international relations in the form of direct blackmail and

various kinds of sanctions, including threats of the use of military force. All this does not make the US any more popular in the international field. The introduction of sanctions against any state always has a more or less negative impact on the global economy. When powerful global players such as China and Russia are involved in the sanctions war, the consequences of the confrontation can be very unforeseeable.

Most of the world community understands this. This is evidenced by the failure of U.S. plans to isolate Russia internationally, as most of the world does not support the policy of sanctions pressure by the United States and its allies directed against the Russian Federation.

Convinced of the ineffectiveness of economic and political sanctions, Washington and its supporters began to use blatantly terrorist methods.

As propagandistic anti-Russian outbursts, there is a bloat on the issue of 'Russia's readiness to use tactical nuclear weapons' in a special military operation, among other things. Unfortunately, we cannot expect the situation to change any time soon, so our system of military-technical cooperation, which has been under Western sanctions pressure for many years, is systematically improving working methods to successfully counter the restrictions imposed on it.

We have achieved good results in this direction: alternative schemes of mutual settlements are introduced, the system of insurance of international freight transportation is improved, and the interests of our partners are protected.

International economic organizations are being created at the state level, the financial policy of which provides for the rejection of the U.S. dollar. And more and more countries are striving to join them.

Our world is being reshaped; a new world order is being established. In order to strengthen Russia's international standing, its political position and national security, we, the employees of the Russian Federation's system of military and technical cooperation with foreign states, are also rearranging ourselves.

– **How ready is Russia to talk about setting up military equipment production in other countries?**

– Despite the fact that, traditionally, deliveries of final products to foreign customers still dominate the share of exports, each year there is an increasing tendency for foreign partners to become more and more interested in implementing joint projects.

Today the Russian side is ready to talk about setting up military equipment production in the territory of partner countries. We strive for more active introduction of modern forms of cooperation that can bring the process of our interaction to a higher level. This includes, first and foremost, the joint development of high-tech military products, the establishment of joint ventures for the production of military products, the construction of service centers to maintain the products supplied, and mutually beneficial research and development work in relation to military products.

Many countries are interested in establishing the production of Russian

military equipment on their territory. Russia, in turn, is fully prepared to provide these countries with everything they need to meet this goal.

One of the best known examples of such cooperation is India, where the BrahMos project, licensed production of T-90S tanks, Su-30MKI aircraft, aircraft engines and Mango tank projectiles have been implemented, and frigates of project 11356 are being built at Indian shipyards.

To date, it can already be said that a project for the joint production of AK-203 assault rifles has taken place, and at the beginning of this year their mass production was launched in India.

Among the promising projects, we can single out the joint production of Ka-226T helicopters and Igla-S portable anti-aircraft systems.

Another example is Vietnam, where joint ventures and service technical centers have been and continue to be set up to maintain different types of ships and their control systems, as well as to repair aircraft. /RA&MG/

More and more countries are showing interest in purchasing our products. This means that the list of our partners in the field of military-technical cooperation has good prospects for growth.



ONE OF THE LEADERS ON THE GLOBAL ARMS MARKET

Alexander Mikheev: *'Rosoboronexport has worked all over the world. The total geography of deliveries during the company's history is more than 100 countries'*

Joint-Stock Company Rosoboronexport is Russia's only state-controlled intermediary in the area of exports and imports of the entire range of military and double-purpose products, technologies and services. The Company is actively involved in pursuing national policy of the Russian Federation in the area of military technical cooperation with foreign countries include African states. The official status of exclusive state-controlled special exporter provides Rosoboronexport with unique opportunities of enlarging a long-term mutually beneficial collaboration with international partners, of strengthening Russia's leadership in the global arms market. In its activities, Rosoboronexport supports implementation of large-scale projects aimed at the improvement of defense capacity of partner countries, and at comprehensive consolidation and innovative development of enterprises and entities of Russia's MIC. Alexander Mikheev Director General of JSC Rosoboronexport talks about the company's successes and objectives in an exclusive interview for the 'Russian Aviation & Military Guide' magazine.

Dear friends,

Russia's friendship with African nations counts many decades of a relationship based on mutual trust and respect. Our state has always provided financial, political and military-technical assistance to Africa, helped it fight for justice, freedom and independence, including with reliable and effective weapons.

Today, the African continent, as part of a globalized world, faces threats and challenges common to other countries and regions. The rise of terrorist threats and international organized crime are among the most poignant ones. Increased drug trafficking and piracy, illegal migration and illegal extraction of resources put a strong pressure on security agencies of practically all countries. The threat of separatism intensifies in a number of nations.

Russia has always sought and will continue to support African countries in their bid for development, increasing their economic potential, improvement of the well-being of their citizens and upholding their national interests. In a multipolar world, Africa, which experienced the injustice and cruelty of Western hegemony, is our reliable partner and ally.

We are ready for a comprehensive and equitable cooperation, implementation of the most ambitious projects jointly with the countries of the African continent, including programs in the military and technical sphere.

As Russia's only state-controlled intermediary in export and import operations with the entire range of end products, military and dual-use technology, Rosoboronexport (part of Rostec State Corporation) has been involved in mutually beneficial cooperation with almost all African countries for many years, and now it is expanding the scale and scope of interaction.

Today, Rosoboronexport offers its African partners a range of products that are best adapted for their armed forces and other security agencies. Better than any other weapons available in the global market, these models are perfectly suited for eliminating security threats on the continent, as well as for protecting its long coastline and vast water area.

In recent years, owing to great care on the part of the leadership of the Russian Federation, as well as glorious long-standing traditions, Russian arms have made a real breakthrough in their development. Rostec State Corporation enterprises and other major industrial companies in Russia have designed high-tech complexes and weapons systems that set the standard for armament manufacturers all over the world. The financial, material and human resources invested in R&D at the enterprises of the Russian military-industrial complex have made it possible to develop the most advanced production technologies.

Combat experience of the Russian weapons use has shown their superiority over military equipment of competitor countries. Most of the latest models, which have been tested on the real battlefield, already have all export permits, and Rosoboronexport is proud to introduce these products to the global market.

Rosoboronexport is ready to develop cooperation with African partners on unique conditions. We offer not only direct



supplies of Russian defense products but also assistance in implementing various infrastructure projects, building and equipping small arms and ammunition production facilities, as well as equipment overhaul and maintenance bases for all types of armed forces. The company is considering a wide range of options for industrial cooperation, including organization of licensed and joint production, joint development of advanced models of weapons and military materiel, their upgrade and maintenance.

Our company widely uses a variety of forms and methods of payments, which our international customers find attractive. Among them are settlements in national currencies and alternative forms of settlements, including those involving the use of natural resources and traditional export goods. Our operations have a strong backing of the Government of the Russian Federation and the country's major banks.

In today's world, Russia has a reputation of a reliable partner that pursues an independent and autonomous foreign policy.

The developments of the second half of the past century and recent history show that Russian arms are essential for Africa, and we can offer our partners a wide array of products that can meet any contemporary challenge. Moreover, Rosoboronexport highly appreciates the restrained stance of its African partners with regard to various anti-Russian sanctions, which makes the African continent open to fair competition.

Alexander Mikheev,
Director General of Rosoboronexport

– **Mister Mikheev, Rosoboronexport that was established over 20 years ago plays an absolutely unique role in Russia's military-technical cooperation system. What tasks were set for the company at the origin? How successfully did Rosoboronexport fulfil them and does it fulfil them today?**

– In 2000 Russian arms supplies to the world market were carried out by several state intermediaries and a number of competing manufacturers.

Thus there were systemic threats: dumping, uncontrolled leakages of technology resulting in budget losses, further collapse of the defense industry and a decline in the credibility of Russian arms and Russia itself as a partner. The strategic interests of the state were affected. Then the President decided to restore order to Russian arms exports and ensure a state monopoly on military-technical cooperation.

Rosoboronexport was established as the backbone of the effective presidential vertical. The company was

entitled to export all the final product samples designed for military applications. The imbalance in the system was redressed quite rapidly.

It did not take long to see the result. Rosoboronexport's volume of deliveries almost doubled in the first five years, tripled in ten and are now growing fivefold. We have been rapid to explore new or lost markets and to cultivate inter-state relationship.

– **What can be said about Rosoboronexport's current image and order book? How this portfolio changes? What are the new components in it and what are the reliable time-tested classics?**

– Rosoboronexport has become one of the leaders on the international arms market for two decades and has contributed greatly in promoting the products of domestic enterprises, incorporated in the Rostec State Corporation as well. Today's company's order book is maintained at a stable high level. The level of expertise, focused attitude towards trends and customer needs demonstrated

over the years undoubtedly indicate good prospects for the company in terms of expanding the geography of sales and deepening cooperation with partners.

One of the main tasks of Rosoboronexport is to introduce the latest high-tech weaponry and military equipment to the global arms market.

In addition to exporting final product samples for the armed forces, Rosoboronexport has successfully extended its foreign trade experience to technological partnership, construction of infrastructure facilities on foreign customers' premises, provision of space services and training of foreign experts in the operation of Russian products.

A novel and promising area for Rosoboronexport has become the promotion of dual-use and civilian products to foreign markets. The company has extensive experience in comprehensively organising supplies of engineering, firefighting and other specialised equipment. Today the state special exporter also supplies civilian and service weapons and is actively working on the markets for high-tech security equipment, medical equipment, hospitals, and special equipment for the needs of public and private sectors.

– **What principles of military-technical cooperation do you consider most important?**

– First and foremost it is a confidence between parties. It is the cornerstone for all relationships but in the field of military-technical cooperation – a rather sensitive domain of inter-state relationships – it is of particular value.

We sign contracts with partners by covering all small details. They are based on intergovernmental agreements. However without mutual confidence in the present context a normal cooperation is hardly possible. When there is no assurance that a partner in order to gain profit will infringe upon the commitments undertaken, no one could ever come to an agreement. Unfortunately we have seen a number of such negative examples in recent times.

The second but no less important principle of MTC is mutual profit-

ability. The partnership should be beneficial to each side.

Naturally it is attention to every partner. Today any customer is strategically important to us. It does not matter whether it is a big deal or a large order: we fight for and always appreciate our partners request from any country if they are interested in our product development.

– **How can you describe Rosoboronexport's supply chain in general terms?**

– Rosoboronexport works all over the world. The total geography of deliveries during the company's history is more than 100 countries. In this respect, it is important that we have had long-term contracts. It was not only exports of Russian military equipment and armaments – there were licensed productions, joint maintenance ventures, projects with coordinated design, new samples engineering and manufacturing installation directly at our partners.

Our work is focused on cooperation with countries friendly to Russia and they are the majority in the world. We work very closely with the Asia-Pacific region and Latin America. There is great interest in Russian weapons from the Middle East, the CIS and members of the Collective Security Treaty Organisation.

Separately I would like to mention the nations of Africa, both North and Sub-Saharan Africa. Russia's friendship with African nations is based on decades of good and trustful relationships. Our government has always supported Africa and helped their people to fight for justice, freedom and independence. Russia will continue to help African nations in their development, enhancement of their economic potential, welfare of their citizens and upholding their national interests. In a multipolar world, Africa is our reliable partner and ally.

We are ready for comprehensive and equal cooperation for the implementation of the most ambitious joint projects in the military-technical sphere.

Of course a significant impetus for military-technical cooperation development with African nations has been given by long-established

'First and foremost it is a confidence between parties. It is the cornerstone for all relationships but in the field of military-technical cooperation – a rather sensitive domain of inter-state relationships – it is of particular value.'



Russia-Africa summit hosted and held under the personal supervision of the President of the Russian Federation.

– **What are the most brilliant pieces of armament that Rosoboronexport promotes on foreign markets today?**

– All samples of the modern Russian products promoted by us are in demand on the market. Of course some of them are in the greater demand. Among the products for the Air Force we can highlight the Ilyushin Il-76MD-90A military transport aircraft, the Sukhoi Su-35 and the Sukhoi Su-30SME fighters, the Sukhoi Su-34E fighter-bomber, the Kamov Ka-52E combat scout attack helicopter, the Mil Mi-17 military transport helicopters and guided air-delivered ordnance for destruction of air, ground and surface targets. There is great demand for Russian unmanned aircraft systems – Orion-E reconnaissance and reconnaissance/strike unmanned aircraft systems, Orlan-30 and Orlan-10E reconnaissance UAVs and Kub-E kamikaze drone.

Representatives of the air defence forces are interested in a wide range of anti-aircraft missile systems and complexes of various ranges of fire: the S-400 Triumf air defense missile systems, the Antey-4000 air defense missile system, the S-350E 'Vityaz' air defense missile system, 'Viking' air defense missile systems, 'Buk-M2E' air defense missile systems, 'Tor-E2' and 'Tor-M2E' ADMS, the Pantsir-S1 self-propelled air defense missile/gun system, the Igla-S and Verba MANPADS. Russian electronic warfare and countermeasures equipment – radar stations, electronic suppression systems and UAV countermeasures equipment – are also in high demand on the market.

The land forces of our partners keep a high profile to the T-90S and T-90MS main battle tanks, the 'Sprut-SDM-1' light amphibious tank, the BMPT tank support combat vehicle, the TOS-1A heavy flamethrower system, 'Tornado-G' MLRS, 'Msta-S' self-propelled howitzer, 'Tigr' and 'Typhoon' special purpose armored vehicles, anti-tank systems and small arms.



'If we talk about the entire period of Rosoboronexport's history, I would first of all mention that we hold one of the top rating in the global arms market, the high credibility of a reliable and strong partner among customers and the timely implementation of the tasks assigned by the President of the Russian Federation, who is at the top of the military-technical cooperation vertical.'



Among Russian naval systems Rosoboronexport notes customer interest in the Rubez-ME coastal tactical missile system, The Pantsir-ME air-defence missile and artillery system, the Club-S and Club-N integrated missile system, as well as modern ships and submarines capable of carrying them on board: the Project 22356 multipurpose frigate, the Project 20382 multipurpose corvette, the Project 22160 patrol ship for distant sea areas, the Karakurt-E small missile ship and others.

– What competitive advantages of Russian defense products are most valued by Rosoboronexport's partners?

– Thanks to a great deal of attention on the part of the state leadership as well as the glorious long-standing traditions today Russia's weapons have reached a qualitatively new stage in their development. High-tech complexes and weapon systems have been created that set the standard for armorers around the world. The financial, material and human resources invested in R&D efforts at defense industry enterprises have made it possible to develop the most cutting-edge production technologies.

All products offered by Rosoboronexport are capable of operating reliably and efficiently in a wide range of climatic conditions. The experience of combat use of Russian weapons in military con-

flicts and major anti-terrorist operations by various countries around the world has demonstrated their effectiveness and compliance with the declared capabilities.

Today Rosoboronexport in cooperation with the Rostec State Corporation and other major Russian industrial companies is actively engaged in industrial cooperation involving joint projects to design and manufacture the high-tech weaponry and military equipment on the customer's premises. We have positive experience in implementing more than a hundred such contracts around the world.

Our efforts in India is the poster child for a comprehensive industrial partnership within the framework of which we manage to settle down joint projects for all branches of the armed forces with cooperation level between companies in the two countries being unique on the global market.

We have a long-term project with Hindustan Aeronautics

Limited (HAL) to license production of the Indian Air Force's most popular aircraft that is the Sukhoi Su-30MKI and we are standing by to get the green light to produce the Kamov Ka-226T light multipurpose helicopters on the basis of a joint venture. India produces T-90 and T-72 main battle tanks, BMP-2 infantry fighting vehicles, 'Mango' and 'Invar' projectiles. Production of Kalashnikov AK-203 assault rifles has been launched at Korwa Ordnance Factory and it will eventually reach a 100 percent localization level. There are joint projects on behalf of the Indian Navy and we are expecting cooperation on air defense missile systems.

Moreover, Rosoboronexport is actively working on technology projects with other nations namely from the Middle East, the Asia-Pacific region and the CIS states. One of the promising areas under implementation is the installation of weapon stations made by partner states on Russian platforms. We also offer and have already successfully integrated Russian modern weapon station into the armored vehicles of foreign design.

All the products we promote have state-of-the-art technical training equipment and high-tech simulators certified by the manufacturing companies. Besides, Rosoboronexport provides personnel training for maintenance and operation at the best military training facilities.

The Russian defence industry is conducting a large-scale import substitution programme, which will eventually lead to import-independence for most production facilities. This gives our partners confidence in the timely and full maintenance of supplied products as well as its upgrade and development.

'Rosoboronexport gives special attention to industrial partnership projects with foreign customers. The company has a large portfolio of licensed production facilities and joint ventures in India, Malaysia, Vietnam and a number of other countries.'

– The list of Rosoboronexport's successes and achievements over the years is extensive but for yourself which successes would you highlight in the first place?

– If we talk about the entire period of Rosoboronexport's history, I would first of all mention that we hold one of the top rating in the global arms market, the high credibility of a reliable and strong partner among customers and the timely implementation of the tasks assigned by the President of the Russian Federation, who is at the top of the military-technical cooperation vertical.

As for the period since 2017 when I was appointed as the Director General of Rosoboronexport, the main achievement was its successful adaptation to the harshest manifestations of unfair trade competition from the USA and other Western countries – imposed sanctions – and stable work under this condition.

As you know in April 2018 Rosoboronexport was put on the US list of sanctioned companies. Of course we realized right away that we would have to work for a long time under sanctions. We were prompt enough to implement the necessary measures and set up all the operational work so that Rosoboronexport could feel fine on the market.

When it comes to specific projects one of the main achievements is the contract to supply India with S-400 'Triumph' long-range air defense missile systems, concluded during the Russian-Indian summit in New Delhi on 5 October 2018. It became the major project for the entire period of military-technical cooperation between Russia and India. The same systems were delivered to a NATO country despite strong opposition and political pressure from rivals. We returned to sub-Saharan Africa and are active engaged into operations there.

– What helps Rosoboronexport not to cut down momentum and maintain a high bar of foreign economic activity against the current backdrop of unprecedented pressure and sanctions from a number of states?

– In the course of business activity, we feel great support from the

President, the Government of the Russian Federation, the Federal Service for Military-Technical Cooperation, the Rostec State Corporation, Russian financial regulators and major banks. A set of measures has been formed to ensure that Rosoboronexport continues to implement all intergovernmental agreements and long-term contracts with partners.

The President is promptly taking the necessary measures in today's difficult situation for the entire Russian defence industry and as well

while delivering state defence order and providing the Russian Armed Forces with the necessary weapons and military equipment.

But there is another very important thing which I have already mentioned that is the confidence of our partners. Our partners have had a confidence in all of our initiatives, they understood all of our suggestions on how to work under sanctions, and so far we have had a pretty good result.

– What global arms market development trends do you see today

'Foreign customers appreciate Rosoboronexport's expertise and the opportunity to collaborate with the Russian defence industry through the single-window service provider as we are offering a full package of services for the export of high-tech military and civilian products and the transfer of technology.'



as foreign trade system. Legislation supporting Russian industry and military-technical cooperation with foreign nations are being considered and enacted at all levels of national authority.

Of course the incredible devotion and operating capability of all defence contractors who were capable to fulfil our export obligations

and how does the Russian military-industrial complex meet those requirements?

– The main focus today is on unmanned military equipment and robotic systems. The use of unmanned vehicles and systems is envisaged in all environments – on the ground, in the air, on water and underwater.

'In the course of business activity, we feel great support from the President, the Government of the Russian Federation, the Federal Service for Military-Technical Cooperation, the Rostec State Corporation, Russian financial regulators and major banks. A set of measures has been formed to ensure that Rosoboronexport continues to implement all intergovernmental agreements and long-term contracts with partners.'



Today the introduction of artificial intelligence in the mass data processing on warfare setting and for decision-making is actively developing. The use of electronic warfare, secure digital communications and electronic reconnaissance are of great importance in modern conflicts. There is a movement towards the use of new physical principles in the design and production of weapons and ammunition.

Joint developments in the field of laser technologies and super-high frequencies to combat unmanned aerial vehicles of various applications should be among the priority trends. The development of these technologies will make it possible to provide our foreign partners with air defence systems capable of destroying UAVs almost instantly at minimal cost.

The future of missile know-how is hypersonic technology. Russia is

ahead of other nations in hypersonic technology and is not going to slow down in its development.

- What things do attract foreign partners to cooperate with Rosoboronexport?

- Foreign customers appreciate Rosoboronexport's expertise and the opportunity to collaborate with the Russian defence industry through the single-window service provider as we are offering a full package of services for the export of high-tech military and civilian products and the transfer of technology.

Rosoboronexport gives special attention to industrial partnership projects with foreign customers. The company has a large portfolio of licensed production facilities and joint ventures in India, Malaysia, Vietnam and a number of other countries.

Today the global economy is demanding production localization; countries are interested in

technological cooperation and job creation. Thus the nations of South-East Asia, North Africa, India and China have already formed their own industrial platforms. Rosoboronexport is ready to work on them and together with industry and the Rostec State Corporation promote Russian high-tech solutions and develop new products together with partners.

- What would you like to wish to the employees of Russia's military and technical cooperation sector today?

- It is my sincere pleasure to to congratulate the staff of all the entities involved in Russia's military-technical cooperation with foreign nations. I extend my heartfelt congratulations and gratitude for their fruitful joint work and support rendered to the Federal Service for Military-Technical Cooperation and the Rostec State Corporation.

I would like to express my appreciation for the efforts made by all enterprises within the military industrial sector in order to create and produce modern high-tech products with great export capacity.

We are focused together on new successes and on the further streamlining of the system of military-technical cooperation. Thus we must do everything possible to ensure that Russia's system of military-technical cooperation remain competitive and actively seized for the leading position around the globe.

/RA&MG/



THE FUTURE OF THE AEROSPACE INDUSTRY

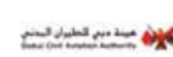


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ALMAZ – ANTEY CORP. WILL PRESENT A NEW CIVILIAN TOW TRUCK AS WELL AS THE MILITARY AND CIVILIAN PRODUCTION AT THE RUSSIA-AFRICA FORUM

Almaz – Antey Air and Space Defence Corporation, JSC will take part in the Russia-Africa Economic and Humanitarian Forum which will be held at the Expoforum Exhibition and Convention Centre in St. Petersburg on 27-28 July 2023. At the event site, the Corporation will present its capabilities for the development and production of serial high-tech production for military and civilian purposes. The Corporation's specialists will tell guests and participants of the Forum about promising areas of work and take part in the business programme.

The guests of the Forum will be able to familiarize themselves with the military production developed and manufactured by Almaz – Antey Corp.: models of short-range air defence missile systems Tor-M2E, Tor-M2K, Tor-M2KM, medium-range air defence systems Viking and Buk-M2E.

The models of airspace control radars Podlet-K1KE, Kasta-2E2, Gamma-DE and Gamma-S1GE and the modernised PRP-5 portable reconnaissance radar on tracked and wheeled bases, Aistenok portable reconnaissance radar, ARLC 1L260-E radar complex for detection and control of firing positions, SNAR-10M1 self-propelled reconnaissance radar,

MSP-418K small-size jamming station for the protection of MiG-29 aircraft will be also displayed.

In the field of the civil technologies, the Corporation will demonstrate products for air traffic management: models of the Aurora-2 monopulse secondary surveillance radar, the Mangust 1090 ES mobile radio beacon of dependent

surveillance, models of the Sopka-2 radar complex, the Lira-A10 S-band airfield radar, and the DMRL-S Doppler meteorological radar. The guests of the Forum will also be able to see full-scale models of the Sova object protection radar and the UAV-R unmanned aerial vehicle.

As for innovative digital solutions for healthcare, the Corporation's specialists will demonstrate full-scale samples of the Multitrek navigation optical system for neurosurgery, the APK-RVO-2 real-time operating hardware and software system, the automated workplace of a consulting physician, the Uniarm-Fluorograph universal digital radiographic complex R-600, and the Remotion modular robotic exoskeleton designed for the rehabilitation of patients with impaired mobility of the lower limbs.

The Corporation will also present models of underwater fittings for the subsea hydrocarbon extraction system and the HC-DVB-1000 digital television transmitter.

For the first time the Corporation will hold an open presentation of the

BAZ-S36A11 6x6 truck chassis at the open exhibition. The serial models of such vehicles are designed for use on public roads of all categories and off-road. The high cross-country ability of the vehicle is achieved through the use of specially designed axles with independent suspension, each of which has a load capacity of 12 tonnes. Fully loaded weight is 35,700 kg, curb weight – 13,600 kg, payload – 22,100 kg. The prospective model range on the basis of the base platform BAZ-S36A11 includes a wide range of all-wheel drive cabover trucks with wheel configurations 4x4, 6x6(4), 8x8(4) and 10x10. All main units and assemblies of the vehicle are of domestic production.


In addition, Almaz – Antey Corp. will demonstrate its developments in the field of climatic and refrigeration equipment.

'The upcoming Russia-Africa Forum is a crucial event for the development of foreign economic cooperation, strengthening international security and solving humanitarian problems,' said Yan Novikov,

Director General of Almaz – Antey Air and Space Defence Corporation, JSC, in the run-up to the event. He stated that the Corporation has historically proved itself as a reliable and financially stable partner with high scientific and production potential. 'In its development strategy the Corporation pays fundamental attention to expansion of business contacts and cooperation with both domestic and foreign partners, among which African countries occupy one of the leading places,' – emphasized the Corporation's Director General. He reminded that the high technical level of the holding's products, their capabilities and reliability have been repeatedly proven by practice.

'Almaz – Antey Corp. constantly expanding the range of its products – both military and civilian. Within the framework of implementing the objectives of achieving technological sovereignty in various industries, we have carried out a number of major strategic decisions on diversification of production and import sub-





Almaz – Antey Air and Space Defence Corporation, JSC is one of the largest integrated companies of the Russian defence industry, employing about 140,000 people. The Corporation includes over 60 high-tech enterprises. The Corporation's products are supplied to more than 50 countries of the world.

The Corporation has a unique research and production base, which concentrates exclusive for Russia production and technological competences from research and development to serial production and maintenance.

The tasks of import substitution and production of innovative civilian products form one of the strategic directions of development of the holding, its subsidiaries and partners. In its relations with partners, the Corporation adheres to the principle of customer-centricity and offers a full cycle of project implementation: from scientific research, development, and engineering to serial production, promotion, sales and maintenance service of products, as well as their disposition.

Almaz – Antey Corp. is the main contractor for modernisation of the Unified Air Traffic Management System of the Russian Federation, within the framework of which the Corporation is creating modern surveillance, control and communication facilities, and also using the entire domestic scientific, technical and industrial potential.

stitution,’ said Yan Novikov. – Deep modernisation of production, optimisation of management processes, equipment upgrades, and personnel transformation have already been completed at most of the holding’s enterprises’.

’As a result, the Corporation has repeatedly demonstrated in practice its ability to bring to life innovative projects and programmes in the fuel and energy sector, the automotive

construction, the nuclear industry, healthcare and other sectors,’ noted the Director General of the Corporation.

Yan Novikov reminded that last year the Corporation completed a large-scale project to build, reconstruct, and equip consolidated centres of the Unified Air Traffic Management System in Russia. ‘Under current conditions, this is especially relevant and important: we use





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CONNECTING WITH THE LARGEST DEFENSE MANUFACTURERS IN THE WORLD

EQUIPPED FOR TOMORROW

INDUSTRIAL REFRIGERATION EQUIPMENT ACCORDING TO MILITARY QUALITY STANDARDS

The Izhevsk Electromechanical Plant Kupol (part of Almaz – Antey Air and Space Defence Corporation, JSC) is the main manufacturer of the air defence systems of the Tor class – as part of diversification, is dynamically increasing the production of modern high-tech civilian and dual-use products. The production of industrial refrigeration equipment is one of the activities of the enterprise.

IEMP Kupol produces systems and elements of refrigeration, temperature control and air conditioning systems: compressor, receiver and pump units and stations, liquid cooling systems, air-cooled condensers, air coolers, ice and cold accumulators, control systems, etc. The industrial refrigeration units are

used in the systems of the central air conditioning of various premises, in industrial enterprises for cooling equipment and for ensuring technological processes, for solving a number of other tasks, up to the cooling of food and drinks. These are complex, high-tech products with increased requirements for the quality of workmanship and production technologies. The products are manufactured on modern high-precision equipment where only high-quality components are used.

The Promholod project was launched at the enterprise relatively recently, in 2019. A successful start was ensured thanks to the involvement of the leading Russian specialists in the field of industrial refrigeration equipment to participate in the project – many of them had more than twenty years of experience in this field by that time. Combining their knowledge and experience with the high technologies of the Izhevsk Electromechanical Plant Kupol, a benchmark for the highest achievements of engineering and design, allowed the company to

quickly launch the production of the highest quality products.

In 2020 the plant handed over to the state customer a large batch of seismic-resistant refrigeration machines for operation in special conditions. Today, these machines provide the desired temperature and air conditioning for a strategically important facility. To accomplish this task, the refrigeration machines are equipped with the screw compressors, air liquid coolers (drycoolers), pumping equipment and a control system based on programmable controllers.

The high quality and reliability of industrial refrigeration equipment of IEMP Kupol provide a stable demand in the market. The range of manufactured products is constantly expanding. Along with the release of serial products, the company develops and produces high-tech products according to the individual technical requirements of the customer.

Among the recent achievements is the supply of a soil freezing unit for all-season thermal stabilization of soils in the interests of a large

manufacturing company specializing in the development and supply of equipment for industrial and civil construction, in particular, oil and gas, fuel and energy and electric power complexes.

Also Kupol supplies refrigerating machines of the 4th and 3rd safety class within the framework of the 'Construction of a multi-purpose research reactor on fast neutrons' project in Dimitrovgrad. To implement this project, the enterprise received a license from the Federal Service for Environmental, Technological and Nuclear Supervision for the design and manufacture of equipment for research reactors.

The large-scale work has been carried out to develop and manufacture the air coolers for data processing centers in the IT industry in the interests of one of the leading Russian data center operators. The air cooler is a product of full factory readiness. It is used as part of the air conditioning systems of the data centers. With the help of an air cooler, the constant indicators of temperature and humidity are provided in the premises with a high concentration of the high-tech equipment.

In 2023 the installation and commissioning of refrigeration systems at a large meat processing enterprise were completed. The compressor-condensing units of the new KA1-400 series were used for the industrial air conditioning system at the product cutting and packaging sites, as well as for the cooling and storage system at the raw material ripening section. The units of this series have a modern design, the design provides for placement and operation in an open area. Also, for one of the largest food enterprises in Russia, the liquid cooling units were manufactured, used for winterization of vegetable oil in order to remove wax. With a weight of 7 tons, the power of the unit is 3525 kW.

Another outstanding achievement of the Izhevsk Electromechanical Plant Kupol is the project for the production of recirculation cooling units for the Kursk NPP-2. 142 units of equipment are subject to manufacturing and delivery, of which 130 units use the finned tubes.

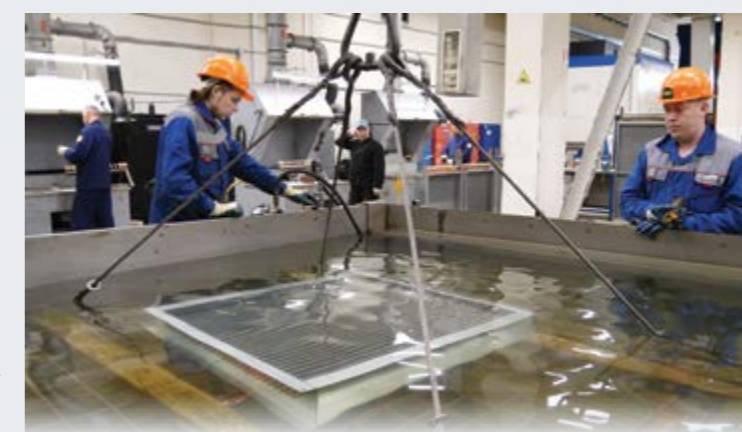
The recirculation units are designed to maintain the set air temperature at nuclear power plants. They operate in a containment area – a special hermetic building where the reactor is located, and are responsible for cooling the air that is supplied to the systems responsible for the operation of the reactor.

The main structural element of the cooling plant is the finned tube. This is a construction of two elements – the tube itself and the fins that increase the heat exchange surface. Kupol has established the production of tubes with a diameter of from 13 to 114 mm and a pitch of 2 mm. The products with the similar characteristics, filed by the company, are not produced in Russia.

The launch of the production of the finned tubes was made possible thanks to the financial support of the Industrial Development Fund. The investments exceeded 136 million rubles, of which 62.3 million rubles were provided by the federal Industrial Development Fund and 26.7 million rubles by the regional Industrial Development Fund of Udmurtia.

The production of industrial refrigeration equipment at the Izhevsk Electromechanical Plant Kupol is distinguished by:

- rich practical experience, supplemented by a modern system of mathematical modeling of refrigeration systems;
- development of projects taking into account industrial and environmental safety, labor protection and energy saving, a systematic approach to their implementation;
- conformity of project documentation with modern domestic norms and rules;
- modern serial production, equipped with high-tech equipment;
- a full range of services for design, architectural supervision, installation and commissioning of equipment, its maintenance;
- availability of all necessary licenses for the development and production of equipment in accordance with the norms of the Federal agency for construction, housing and housing services of the Russian Federation and the Federal Service



for Environmental, Technological and Nuclear Supervision of the Russian Federation;

- highly qualified engineering and technical personnel.

The quality control system at Kupol is unified for both defence and civilian industries and meets the strict requirements of the GOST RV 0015-002 defence standard.

All this allows the Izhevsk Electromechanical Plant Kupol to confidently move towards the goal – to achieve the leading position in the domestic market.

/RA&MG/



TMC EXPANDS ITS RANGE OF SERVICES AS PART OF A COMPREHENSIVE SERVICE PACKAGE



Boris Obnosov
Director General of 'Tactical
Missiles Corporation'

Tactical Missiles Corporation (TMC / the Corporation) is one of the largest developers and manufacturers of precision weapons for air, sea, and coastal deployment. Having united more than forty defence enterprises, TMC occupies an important place in the structure of the defence industry complex of the Russian Federation.

Over the past two decades, the Corporation has developed over twenty precision-guided weapon systems. The well-proven aviation and naval systems have been replaced by new models, often having

no equals anywhere in the world.

Increasing the range and speed of flight, combat load and jamming immunity, all-weather and twenty-four-hour application as well as introducing the elements of artificial intelligence into the control

system are the main areas of ongoing design activities carried out by the TMC enterprises. The development of new generation high-precision weapons continues, taking into account warfare global trends.

'We never stand still. In recent times alone, we have

tested several models that have proven their value in combat conditions,' said Boris Obnosov, director general of the corporation, a Hero of the Russian Federation, during the International Naval Show, which took place in June 2023 in Kronshtadt, St. Petersburg.

The Ministry of Defence of the Russian Federation is the main customer of TMC products. At the same time, the products are in high demand in the global arms market. More than two dozen countries are partners of the Corporation for military-technical cooperation.

Since the 2000s, there has been a significant increase in international cooperation in the procurement of Russian-made weapons, including air guided missiles. Air-to-air and air-to-surface missiles, as well as anti-ship and anti-radar missiles, are also in service of states on the African continent.

The process of merging domestic companies developing and manufacturing precision weapons into the integrated structure, forming the Tactical Missiles Corporation, began in 2002, and in 2005 the parent company, TMC was granted the right to conduct independent foreign trade activity in military products, which brought relations with foreign customers to a new level.

A solution was found to meet the request of foreign customers to organize training for engineering and flight personnel in the operation of air guided missiles. The Vypel State Research and Design Bureau named after I.I. Toropov (part of TMC) in Moscow hosts the Personnel Training Centre, which provides training on

the entire range of aircraft armament produced by TMC. Specialists of the centre have developed lecture courses, supporting notes, interactive structural schemes, posters, electronic training aids on design and operation, and product repair.

Thus, at present the Corporation not only fulfils contracts for the supply of high-precision aviation and naval weapons to foreign customers, but also implements projects for their comprehensive after-sales support, in the framework of which it extends the service life of products, assists

in their operation and repair, and trains specialists.

The Corporation aims to implement long-term after-sales support programmes through integrated frame contracts. This will enable partners to maintain the operational readiness of the entire missile fleet at all times, while simplifying planning and ensuring the efficient use of the funding available for the work.

According to Boris Obnosov, head of TMC, 'the Corporation appreciates the long-standing experience of cooperation with traditional partners in the field of military-technical cooperation. We look to the future with confidence, see great opportunities and will develop joint mutually beneficial projects.'

/RA&MG/



Project 22800 Karakurt

Compact power

Great capabilities with low displacement

- ◆ Considerable fire power;
- ◆ Ensuring tactical supremacy;
- ◆ Strong Air Defence;
- ◆ Solving of the tasks in times of piece.

Despite its lower class, the firepower of a Karakurt corvette can be compared to a frigate.

Karakurt class ships are capable of achieving and maintaining maritime supremacy of an assigned sea area and of delivering high-precision missile strikes against critical land facilities located at the depth of an enemy's territory.

Multichannel anti-aircraft artillery-missile system ensures strong defence of a ship from all types of aerial attack means.

In time of peace Karakurt class ships are able to maintain order in littoral areas.

Armament

Club – N integrated missile system:
Range of fire, km – 300;
Missile load – 8 missiles.



Pantsir-ME AA missile-artillery system:
Range of fire of missiles/artillery, km – 20/5;
Ammunition load of missiles/gun rounds, un. – 32/1000.

Artillery gun mount AK-176MA-01 1x1 76,2 mm:
Range of fire, km – 15,7.

Pozitiv-ME 1.2 3D radar:
Detection range of an air target, km – 150.

Mineral-ME radar:
Detection range of a sea-surface target, km – up to 450.

MR-123-02 Bagira fire control radar system.

Incorporating of Project 22800 Corvettes to the Navy will result in substantial increase in fire power of the fleet at low cost.

Main characteristics:

- ◆ Full displacement, t 870
- ◆ Main dimensions (length, beam), m 67x11
- ◆ Maximum speed, kts 30
- ◆ Range, miles 2500
- ◆ Endurance, days 12
- ◆ Seaworthiness, points 8



Project 12701 Alexandrit-E

Coastal minesweeper

Covert threats: found and defused



Effective ship with minehunter and minesweeper functions.

- ◆ Highly effective sweeping and search for mines;
- ◆ Minimal physical field signature;
- ◆ Control over the ship and a tactical group is highly automated;
- ◆ Traditional and new methods are used to combat maritime minefields;
- ◆ Brand new shipbuilding technologies and composite materials are used.

Modern ahead of course mine search and destroy system and sweeps are installed on Alexandrit-E.

The ship is capable of providing effective countermine protection of naval bases, EEZs, ships and vessels on routes, and highly accurate search and destroy of minefields.

Project 12701 as well can carry out countermine reconnaissance.

Armament

Alexandrit-ISPUM integrated mine search and destroy system or Alister 9 AUV with K-Ster search and destroy system;
GKT-2 and GOKT-1 deep-water sweeps;
SHAT-U broadband acoustic sweep;
Diez-E automated countermine measures control system;
AK-306 artillery gun mount 30-mm.
Alexandrit-E comprises effective countermine measures means.

Main characteristics:

- ◆ Full displacement, t 890
- ◆ Main dimensions (length, beam, draft), m 61,6x10,3x3,3
- ◆ Maximum speed, kts 16
- ◆ Range, miles 1500
- ◆ Endurance, days 10
- ◆ Seaworthiness, points 7





Project 22160E

Patrol ship for distant sea areas

Multipurpose first

Latest shipbuilding advancements embodied in metal

- ♦ Effective patrolling of distant assigned areas;
- ♦ Early warning;
- ♦ Fast disembarkation of troops and interception of vessels;
- ♦ Vast retrofitment possibilities.

The ship is among the best in patrolling of large sea and ocean areas situated far from the home port.

To ensure distant surface monitoring a helicopter and two UAVs are located aboard the ship.

An assault boat and a high-speed motor boat ensuring fast delivery of a special force group or interception of a suspicious vessel are available on board.

Project 22160 can be retrofitted up to corvette class, equipped with a modular hospital, unmanned boats and submersible vessels.

Installing different additional modules in the transformable compartment adds extra functions to the ship.

Armament

AK-176MA-01artillery gun mount 1x1 76,2 mm:
Range of fire, km – 15,7.
Pozitiv-ME 1.2 3D radar:
Air target detection range, km – 150.
Bagira MP-123-02 fire control radar.

There are a hangar, a helipad for a 12 t helicopter and two UAVs.

There are a stern slip and equipment for boats to locate an assault and two high-speed motor boats aboard the ship.

Options

Club-N integrated missile system:
Range of fire, km – 300;
Missile load – 8 missiles.

Palma anti-aircraft missile and artillery system:
Range of fire of missiles/artillery, km – 10/5;
Ammunition load of missiles/artillery – 8 missiles/1000 rounds.

Hi-tech project 22160 is the best choice to ensure compliance with the State's interests in large sea and ocean areas.

Main characteristics:

- ♦ Full displacement, t 1800
- ♦ Main dimensions (length, beam, draught), m 94,1x14 x 3,4
- ♦ Maximum speed, kts 25-30
- ♦ Range, miles 6000
- ♦ Endurance, days..... 60
- ♦ Seaworthiness, points 8



Repellent-Patrol

Complex for counteracting small-sized UAVs

Highly-effective covering infrastructure objects and columns from small-sized UAVs

Possibility of multichannel suppression of UAV communication channels and effective counteraction to a UAV swarm

Designed to detect small-sized UAVs and suppress their communication channels (control and navigation channels) in sector and circular modes.

The system provides for:

- ♦ detection, bearing and identification of UAV signals;
- ♦ generation and emission of signals for jamming of UAV command and satellite navigation channels.

Can be supplied in both mobile and stationary versions. Has advanced capabilities for identifying and counteracting commercial UAVs.

Main characteristics

- ♦ Range of electronic reconnaissance of UAV communication channels, km 25
- ♦ Range of suppression of UAV communication channels in sector mode, km 20
- ♦ Range of suppression of UAV communication channels in circular mode, km 4





KAMAZ-63969

Typhoon-K vehicle

The Typhoon-K motor vehicles are designed to provide integrated logistics support to combined arms and special units, including peacekeeping formations, in various environments. They can be used to carry personnel and military cargos and serve as the basic chassis for mounting a variety of technical systems and weapons.

The vehicles are available in the 6x6 (KAMAZ-63969) and 4x4 (KAMAZ-53949) wheel configurations, have high combat and operational characteristics (mobility, protection, fighting power, design and ergonomics).

The KAMAZ-63969 and KAMAZ-53949 offer high steering capability, speed, off-road performance and maneuverability on all types of roads and terrain.

The Typhoon vehicles are capable of fording 1.50 meters without preparation and climbing a grade up to 30 degrees.

Equipped with 350hp and 450hp diesel engines and automatic transmission systems, they attain a road speed of at least 100 km/h and can travel up to 1,000 km without refueling.

A hydropneumatic suspension system used in all vehicles of the family ensures high ride comfort and effective vibration damping, allowing a change in the suspension stiffness characteristics, ground clearance and body position relative to the road surface, both in automatic and manual override modes. Ground clearance is automatically adjusted depending on vehicle speed, road pavement quality and person-specific driving style.

The Typhoon-K vehicles provide a high level of mine and ballistic protection. Special seats, along with others design features, reduce the negative effects on the crew and troops when a 8 kg TNT explosive device explodes under any wheel and anywhere under the bottom of the vehicle. A high level of ballistic protection is achieved through the use of 'sandwich' armor consisting of inner conventional armor steel and new-generation outer ceramic armor.

The Typhoon-K vehicles share the common unitized automobile platform used in the KAMAZ family of tactical protected multipurpose all-wheel-drive medium- and heavy-duty vehicles and feature a high degree of commonality of components and assemblies within the family.

The main differences typical of the new family of tactical protected multipurpose vehicles are as follows:

- enhanced armoring, including mine protection of the chassis bottom against antipersonnel, anti-tank and improvised explosive devices;

- increased power, reliability and fuel efficiency of the diesel engine;
- higher level of safety and comfort for the crew and combat personnel;
- possibility to install a two plane stabilized remote-controlled weapon station;
- on-board information and control system;
- central tire inflation system;
- all-around video surveillance;
- signature reduction package;
- autonomous diesel power unit;
- automatic fire-extinguishing unit.

Main characteristics

- Wheel arrangement 6x6
- Curb weight, kg 23700
- Load-carrying capacity, kg 4000
- Gross vehicle weight, kg 27700
- Gross trailer weight, kg 8000
- Gross train weight, kg 35700
- Engine KAMAZ 740.354- 450 V-8
- Max engine power, kW (hp) 330 (450)
- Max torque, Nm (kgfm) 1900 (190)
- Grade, deg 31
- Max speed, km/h 100
- Wheels 10.00-10
- Tires 16.00 R20
- Fording depth, m:
 - w/o preparation 1,5
 - with preparation 1,75
- Trench, m 0,6
- Vertical step, m 0,6
- Power-to-weight ratio, hp/t 16,3
- Transmission automatic
- Suspension independent
- Vehicle-system voltage, V 24
- Seating capacity (crew + troops) 12



VPK-233136

Special Purpose Armored Vehicle 'Tigr'

The Tigr special purpose armored vehicle is designed to carry troops, escort and protect columns, patrol, and support units with fire provided by the mounted troops during SAR and special operations.

The vehicle is suitable for conducting operations day and night, regardless of the season with no shelter required for storage, in a wide range of climatic conditions and environs as follows:

- operating temperature range from -50 to +45 °C,
- relative air humidity of 98 % at a temperature of +25 °C,
- air dust concentration of up to 1.5 g/m3,
- surface wind speed not more than of 20 m/sec,
- precipitation intensity of up to 180 mm/h,
- highland up to 4,500 m above the sea level with a margin provided up to 4,650 m for mounting crossing.

The Tigr combines high-mobility and fast-speed performance. Its independent torsion bar suspension allows the vehicle to travel at the highest possible speed in cross-country without trading off comfort of the crew and troops inside. The vehicle is powered by a Russian turbocharged intercooled diesel developing 215 hp. It features a 5-speed manual transmission incorporating a two-speed transfer case complete with an inter-axle differential lock and hub reduction. The vehicle is equipped with a controlled slip differential. It is cleared for operation on all types of roads and terrain towing a trailer that weights up to 2,500 kg.

The vehicle's standard equipment includes a central tire inflation system allowing the driver to adjust the tire pressure to the road conditions underway, 4,000 kg electric winch, and air conditioning system. At the request of the customer the vehicle can additionally be provided with a non-lethal munition launcher, video surveillance assets, communications and navigation equipment, bomb jammer, and other gear as may be required for special missions.

The armor withstands hits of 7.62mm heat-strengthened steel core bullets fired from the AKM assault rifle at 10 m, which is equivalent to STANAG 4569 Level 2.

Main characteristics

- Wheel arrangement 4x4
- Curb weight, kg 6,900 +3%
- Gross weight, kg 8,200 +3%
- Capacity, kg 1,300
- Wheel arrangement 4x4
- Troop carrying capacity 2+7
- Body type, number of doors armored, welded from armor plates, single-compartment, three- or five-door with a single seat row and a troop compartment
- Protection class STANAG 4569 Level 2
- Length, mm 5,700
- Width, mm 2,330
- Height, mm 2,400
- Wheel base, mm 3,300
- Front/rear track 1,840/1,840
- Clearance, mm 400
- Angle of approach/departure, deg 35/35
- Max speed on the road, km/h 110
- Endurance, km 950
- Obstacle capacity:
 - horizontal gap, m 0.5
 - vertical obstruction, m 0.4
 - ford, m 1.2
 - gradient, deg 30
 - inclination, deg 20





Ka-52

Combat scout-attack helicopter

Aerial leader

Highly-maneuverable helicopter is armed with powerful armament complex and is capable to execute any combat task with high efficiency.



Ka-52 Combat Scout Attack Helicopter is designed for destruction of tanks, armored and non-armored vehicles, enemy's manpower and adversary helicopters in the front line or in tactical depth. The helicopter provides transfer of target reconnaissance, target distribution and target designation data to interacted helicopters and command posts of Ground Forces.

Ka-52 has a high combat survivability and combat power, it can be operated round-the-clock, it has a wide range of aerial weapons and high It is the only helicopter in the world that is equipped with the Ejection & Shock absorbing System.

Main characteristics

- ◆ Normal takeoff weight, kg 10.400
- ◆ Max speed, km/h..... 300
- ◆ Maximum climb-rate, m/s 16
- ◆ Service ceiling, m 5.500
- ◆ Hovering ceiling, m 3.800
- ◆ Range (with internal fuel tanks), km 460



Mi-171Sh

Military transport helicopter

Up-to-date configuration of the legendary helicopter

The most modern version of the Mi-17 military helicopter with the improved flight and operational characteristics, high survivability and flight safety as well as powerful unguided and guided armament complex.

Mi-171Sh military transport helicopter is designed to perform delivery of manpower, transportation of cargoes and materials inside the cargo cabin or on the external sling as well as for airdropping of tactical troops, airlanding of reconnaissance and sabotage groups and destruction of ground objects.

The helicopter can be operated for medical evacuation, delivery of the emergency medical healthcare onboard, provision of the search and rescue missions in combat conditions. Mi-171Sh features high transport capabilities, it can be effectively employed in special operations, it is self-sufficient and has an out-of-hangar storage capability.

Main characteristics

- ◆ Max takeoff weight, kg 13.500
- ◆ Max external payload weight, kg 4.000
- ◆ Max speed, km/h..... 280
- ◆ Service ceiling, m 6.000
- ◆ Range, km:
 - with main fuel tanks..... 610
 - with two internal additional fuel tanks..... 1065
- ◆ Cargo cabin volume, m³ 23
- ◆ Paratroopers carried in cargo cabin37





Mi-35M

Combat-transport helicopter

Versatile transport-combat platform

It is capable to apply all range of weapons (guided and unguided armament) in various employment modifications, including combat, transport, assault and medevac configurations. It is well-balanced in terms of combat and transport capabilities for employment in the interests of army aviation.

The Mi-35M is designed for destruction of tanks and other armoured and unarmoured vehicles, enemy's manpower in the battlefield and in tactical depth, and for fulfillment of other tasks independently or in cooperation with ground forces.

Mi-35M demonstrates high combat survivability, design and systems' reliability, great operational characteristics and combat features that makes it one of the best helicopters in its class.

Main characteristics:

- ♦ Max takeoff weight, kg 11.500
- ♦ Max external payload weight, kg 2.400
- ♦ Maximum payload in the cargo cabin, kg 1.500
- ♦ Maximum speed, km/h. 305
- ♦ Service ceiling, m 5.400
- ♦ Flight range (internal fuel tanks), km..... 460
- ♦ Paratroopers carried in cargo cabin..... 8



Orlan-10E

Multifunctional complex with unmanned aerial vehicles

Unique for aerial reconnaissance

Equipped with unique payloads for its class to support combat operations of heterogeneous groupings of troops, special operations and search and rescue operations.

Complex with UAVs Orlan-10E is designed for remote aviation monitoring of land and water surfaces, detection of objects day and night, in simple and difficult weather conditions, and is also capable of detecting and identifying GSM base stations and cellular communication networks. 'Orlan-10E' provides high accuracy of flight along the route and determining the coordinates of targets, the complex

is autonomous and mobile, the payload is interchangeable, thanks to a closed communication channel, stable control of the UAV in the air is ensured.

Main characteristics

- ♦ Max. takeoff weight, kg 18
- ♦ Max. payload weight, kg 3
- ♦ Speed range, km/h..... 70-150
- ♦ Maximum flight duration, h 10
- ♦ Maximum radio range, km 100





AK-15

7.62mm Kalashnikov Assault Rifle



Robust. Accurate. Versatile

Larger caliber, better ergonomics, higher accuracy. AK-15 has all the merits of this iteration and uses widespread caliber which provides great selection of ammunition types in 7.62x39mm for your unrivalled performance at the shooting range and in combat.

- The 7.62mm AK-15 Kalashnikov assault rifle is the result of a comprehensive approach in Small Arms design and efficiency based on
- ♦ Versatility (Picatinny rails, a folding buttstock, quick detach muzzle brake and other muzzle devices)
 - ♦ Ergonomics (a pistol grip with tools and accessories inside, fire selector with ergonomic edges, an adjustable buttstock with tools and accessories inside, and a windowed magazine to count your ammo)

- ♦ Accuracy (a free-floating handguard, rigidly fixed top cover, longer sight radius, aperture sight with windage adjustments)

It is common knowledge that the modern features, mentioned above, are combined with robust gas-operated mechanics and battle proven solutions of the legendary AK platform.

Main characteristics:

- ♦ Caliber: 7.62 mm
- ♦ Ammunition: 7.62x39 mm
- ♦ Empty weight: 3.5 kg
- ♦ Sighting range: 800 m
- ♦ Magazine: 30 rds



AK-19

5.56mm Kalashnikov Assault Rifle

The Best of Both Worlds



AK-19 is the most modern Kalashnikov Assault Rifle for NATO caliber with time-tested gas-operated mechanics and augmented ergonomics.

The AK-19 has all new folding and adjustable buttstock made of shock-resistant polymer, new grip and a muzzle device. This iteration features increased accuracy due to a free-floating handguard, longer sighting line, aperture sight with windage adjustment and rigidly fixed top cover.

Picatinny rails allow the shooter to install various sights and tactical devices upon the shooter's preferences and training. The organic bayonet-knife, quick-attach suppressor, and compatibility with the GP-34 UBGL 40mm under-barrel grenade launcher tailors your AK-19 to the most challenging tasks. The assault rifle uses the whole variety of .223 Rem ammo (including FMJ and FMJBT)

and organic RS101 with enhanced-penetration bullet makes it efficient against enemy manpower in body armour. Russian-made military-grade firearms undergo the toughest trials possible which guarantee their utmost reliability in any environment and AK-19 is no exception.

Main characteristics:

- ♦ Caliber: 5.56 mm
- ♦ Ammunition: 5.56x45 mm
- ♦ Empty weight: 3.6 kg
- ♦ Sighting range: 800 m
- ♦ Rate of fire: 700 rds/min
- ♦ Barrel length: 415 mm
- ♦ Length (min/max): 875/935 mm
- ♦ Length (with folded stock): 690 mm
- ♦ Magazine: 30 rds



INTERNATIONAL AEROSPACE, MILITARY, NAVY AND TECHNOLOGY GUIDES IN 2023-2024

In 2023

ISSUE	DEADLINE	ADDITIONAL DISTRIBUTION
'GUIDE' №05 (73)	August 08th	ARMY 2023 (14-20.08.2023, Russia, Moscow)
'GUIDE' №06 (74)	October 20th	Defense & Security 2023 (06-09.11.2023, Thailand, Bangkok)
'GUIDE' №07 (75)	October 25th	Dubai Airshow 2023 (12-16.11.2023, UAE, Dubai)
'GUIDE' №08 (76)	November 20th	EDEX 2023 (04-07.12.2023, Egypt, New Cairo)

In 2024

ISSUE	DEADLINE	SPECIAL PARTNERSHIP
'GUIDE' №01 (77)	January 18th	World Defense Show 2024 (04-08.02.2024, Saudi Arabia, Riyadh)
'GUIDE' №02 (78)	February 01th	DEFEXPO INDIA 2024 (February 2024, India)
'GUIDE' №03 (79)	March 01th	ArmHiTec 2024 (March 2024, Armenia, Yerevan)
'GUIDE' №04 (80)	March 20th	FIDAE 2024 (09-14.04.2024, Chile, Santiago)
'GUIDE' №05 (81)	March 20th	Eurasia Airshow 2024 (April 2024, Turkey, Antalya)
'GUIDE' №06 (82)	March 20th	DSA 2024 (06-09.05.2024, Malaysia, K.Lumpur)
'GUIDE' №07 (83)	April 18th	International Exhibition of National Security and Resilience 2024 (21-23.05.2024, UAE, Abu Dhabi)
'GUIDE' №08 (84)	May 05th	KADEX 2024 (23-26.05.2024, Kazakhstan, Astana)
'GUIDE' №09 (85)	May 10th	MAKS-2024 (July, 2024, Russia, Moscow)
'GUIDE' №10 (86)	July 01th	ARMY-2024 (August 2024, Russia, Moscow)
'GUIDE' №11 (87)	August 01th	Africa Aerospace and Defence 2024 (18-22.09.2024, South Africa, Pretoria)
'GUIDE' №12 (88)	September 06th	ADEX 2024 (24-26.09.2024, Azerbaijan, Baku)
'GUIDE' №13 (89)	September 15th	SOFEX 2024 (October-November 2024, Jordan, Amman)
'GUIDE' №14 (90)	October 15th	INDO DEFENCE 2024 (06-09.11.2024, Indonesia, Jakarta)
'GUIDE' №15 (91)	October 22th	Airshow China 2024 (12-17.11.2024, China, Zhuhai)
'GUIDE' №16 (92)	October 25th	IDEAS 2024 (19-22.11.2024, Pakistan, Karachi)
'GUIDE' №17 (93)	November 01th	ExpoNaval 2024 (03-06.12.2024, Chile, Valparaiso)
'GUIDE' №18 (94)	November 18th	Vietnam Defence 2024 (December 2024, Hanoi, Vietnam)

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Unique pipe manufacturing technology:

- Manufacture of monometallic and bimetallic pipes with increased heat transfer capability.
- Wide range of materials used.
- High frequency continuous welding of strip.

FINNED PIPE

EFFICIENCY OF PRODUCTS WITH FINNED PIPE:

increased heat transfer coefficient

reducing amount of pipe required

decrease of total weight of the product

increase of equipment operating life

capability to withstand maximum temperatures, temperatures drops, pressure spikes and heavy loads

PIPE APPLICATIONS

Engineering
(oil coolers, compressors)

Chemical and refining industry
(condensers, gas heaters, gas coolers)

Nuclear Power
(gas coolers, steam coolers air heaters, drying towers)

TECHNICAL SPECIFICATIONS OF MANUFACTURED PIPES

Parameter	Value
Pipe diameter, mm	13–114
Wall thickness, mm	1–10
Pipe length, mm, max	12 000
Pipe material	carbon steel, stainless steel, heat resistant alloyed steel, titanium, aluminum (A6063–T5), copper (C7060 TS), inco nickel
Fin material	carbon steel, stainless steel, low alloy steel, titan, aluminum (A1100), copper (C1020R), inconel
Fin diameter, mm	25–162
Fin pitch, mm	2,5–25,4

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